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New Species of *Psenini*

(Hymenoptera : Sphecidae)

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In connection with a generic revision of the Sphecidae certain undescribed species have turned up which either significantly extend the known geographical range or alter generally accepted generic limits. The two new species of the pemphredonine genus *Psenulus* fall into the first category above. The two new *Pseneo* fall in the second category. Holotypes of *Psenulus mayorum* and *P. aztecus*, together with *Pseneo irwini* are deposited in the University of California at Davis Entomology Museum (UCD). The holotype of *Pseneo leytenensis* is in the California Academy of Sciences (CAS).

Psenulus mayorum Bohart and Grissell, new species

FEMALE HOLOTYPE.—Length 7 mm. Black, marked with pale yellow as follows: mandible mostly, palpi, scape in front, pronotum dorsally including lobes except for dark humeri, midventral stripe on mesothorax, foretibia externally, midtibia and hindtibia on basal third, basitarsi of fore and midleg mostly; reddish are: mandible apically, flagellum beneath, scape partly; tarsi partly, and tegula; wings faintly stained. Pubescence well distributed, most conspicuous on lower face, mostly silvery but yellowed on vertex and scutum, dense toward midventral line of mesothorax; petiole pubescence nearly absent dorsally, sparse but longer than petiole diameter laterally; a short hair fringe apically on sternites IV and V. Punctuation mostly fine and sparse, entire body rather polished except propodeum laterally and posteriorly where it is moderately rough to subreticulate (Fig. 6). Clypeus narrowly projecting at apex which is set off by a weak transverse groove (Fig. 1); mandible dentate near middle of upper inner margin and bidentate apically; head broader than long, least interocular distance less than eye breadth in front view; frontal carina keel-like, very slightly broadened between antennae, connecting with a transverse carina which angles obtusely and fades out near eyes (Fig. 1); occipital carina nearly straight dorsally, ending ventrally far before reaching midventral line; humeral angle sharp but obtuse (Fig. 2); notaulices

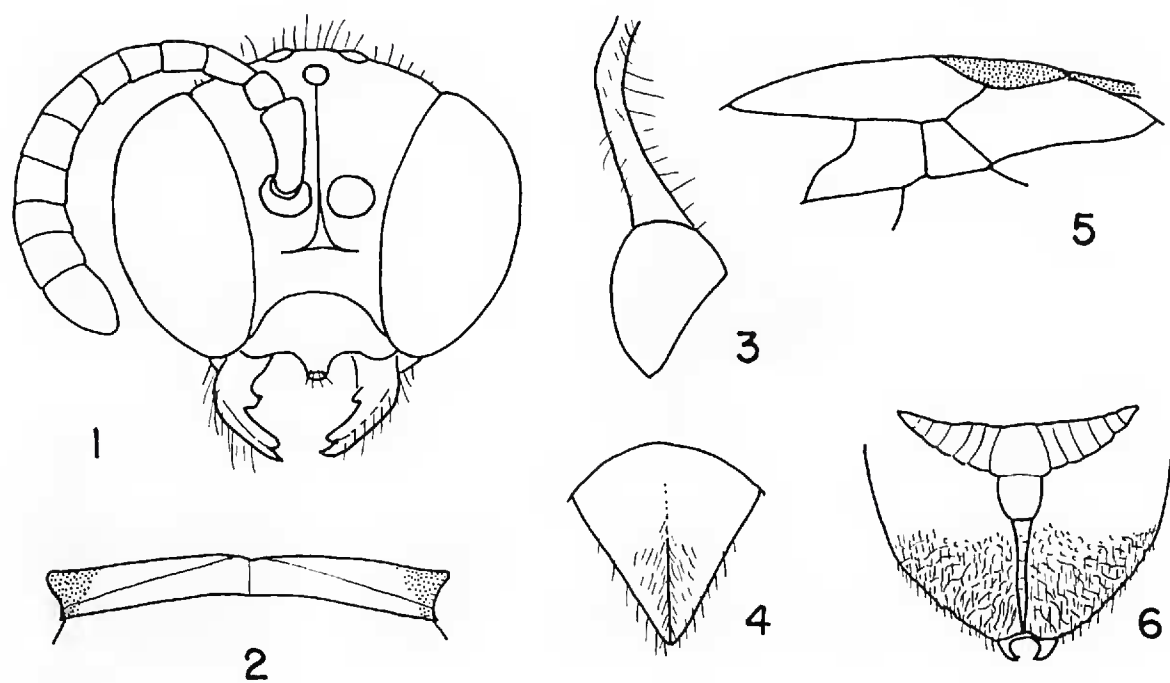
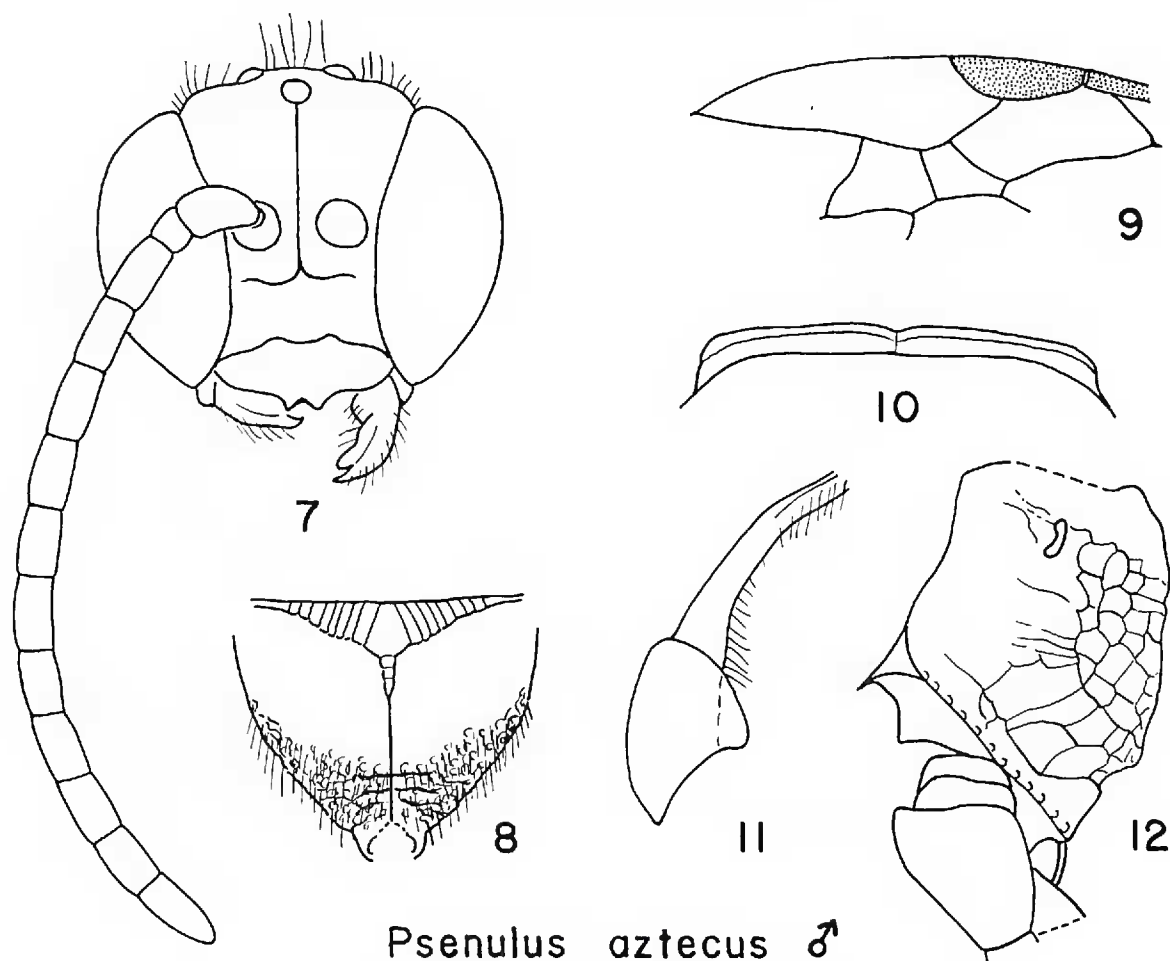
*Psenulus mayorum* ♀*Psenulus aztecus* ♂

FIG. 1. Head, anterior. FIG. 2. Pronotal ridge, dorsal. FIG. 3. Petiole and tergite I, profile. FIG. 4. Tergite VI. FIG. 5. Forewing near stigma. FIG. 6. Propodeum, posterior. FIG. 7. Head, anterior. FIG. 8. Propodeum, posterior. FIG. 9. Forewing near stigma. FIG. 10. Pronotal ridge, dorsal. FIG. 11. Petiole and tergite I, profile. FIG. 12. Propodeum, hindcoxa and extreme base of petiole, lateral.

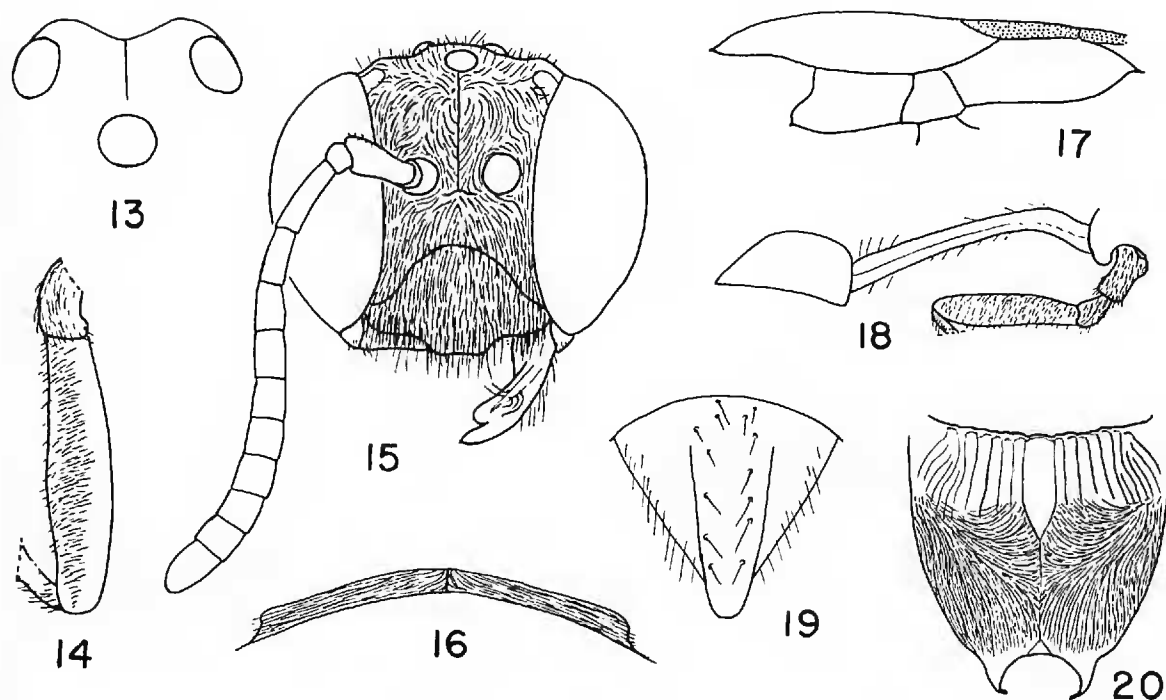
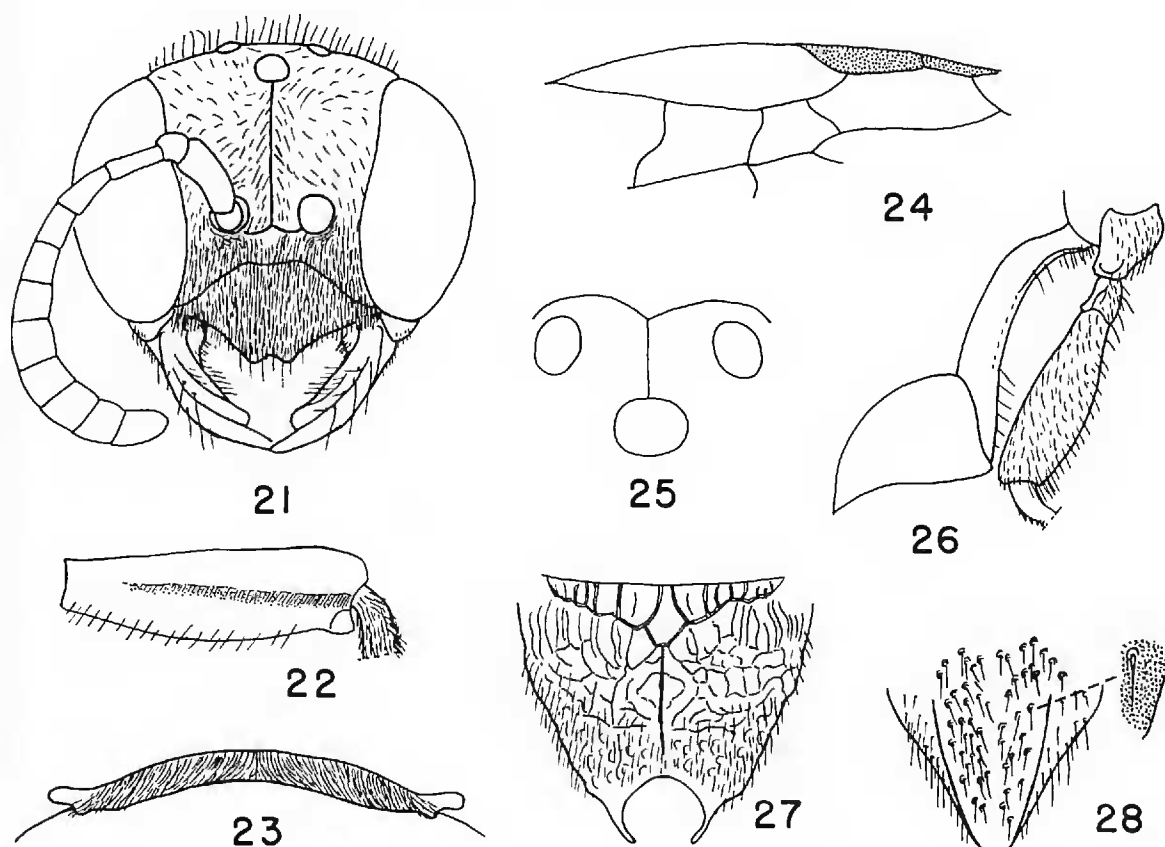
*Pseneo leytenis* ♀*Pseneo irwini* ♀

FIG. 13. Ocellar triangle, dorsal. FIG. 14. Hindfemur, inner. FIG. 15. Head, anterior. FIG. 16. Pronotal ridge, dorsal. FIG. 17. Forewing near stigma. FIG. 18. Petiole, tergite I and hindleg, profile. FIG. 19. Tergite VI. FIG. 20. Propodeum, posterior. FIG. 21. Head, anterior. FIG. 22. Hindfemur, inner. FIG. 23. Pronotal ridge, dorsal. FIG. 24. Forewing near stigma. FIG. 25. Ocellar triangle, dorsal. FIG. 26. Petiole, tergite I and hindleg, profile. FIG. 27. Propodeum, posterior. FIG. 28. Tergite VI with enlarged integument surface at right.

nearly complete; propodeal enclosure longitudinally carinate, posterior propodeal groove linear but broadened above (Fig. 6); forewing with first recurrent interstitial and second recurrent received well over on third submarginal cell (Fig. 6). Petiole nearly cylindrical, strongly decurved near thorax, dorsum as seen in profile about 1.3 times as long as hindfemur, no lateral or dorsal carinae or sulci except a tiny depression just before tergite I (Fig. 3); pygidium reduced to a median carina (Fig. 4).

Male unknown.

Holotype female (UCD), JALAPA, TABASCO, MEXICO, November.

SYSTEMATICS.—This is the first species to be described from the Neotropical Region. It differs from the four previously described American species in many respects: the pronotum and legs are extensively pale, the clypeus is snout-like, flagellomere II is considerably longer than broad, the humeral angles of the pronotum are rather sharp, the propodeum is extensively polished dorsally behind the enclosure, and the pygidium is linear.

***Psenulus aztecus* Bohart and Grissell, new species**

MALE HOLOTYPE.—Length 9 mm. Black, marked with off-white as follows: mandible mostly, palpi, scape in front, pronotal lobes, forefemur apically, foretibia and midtibia entirely, hindtibia on basal third, tarsi mostly except article V; yellow are: flagellum beneath, tegula; reddish-brown are: mandible apically, flagellum above, abdomen mostly; wings unstained. Pubescence well distributed, most conspicuous on lower face, silvery throughout; petiole pubescence nearly absent dorsally, sparse and shorter than petiole diameter laterally, moderately dense ventrally near base. Punctuation mostly fine and sparse, body mostly polished except propodeum laterally and posteriorly where it is roughly sculptured (Figs. 8, 12). Clypeus emarginate, bidentate; mandible bidentate apically, not dentate on inner margin; head a little broader than long (Fig. 7), least interocular distance equal to eye breadth in front view; frontal carina keel-like, not broadened between antennae, connecting with a transverse carina which angles downward only slightly and nearly reaches eye margin; flagellum cylindrical, articles and scape subequal in length (Fig. 7); occipital carina gently curved dorsally, ending ventrally far before reaching midventral line; humeral angle rounded (Fig. 10); notaulices complete but faint posteriorly; propodeal enclosure longitudinally carinate, posterior propodeal groove linear but slightly broadened above (Fig. 8); forewing with first recurrent received near proximal edge of second submarginal cell and second recurrent received at proximal fourth of third submarginal cell (Fig. 9). Petiole nearly cylindrical, decurved near thorax (Fig. 11), dorsum as seen in profile about 1.2 times as long as hindfemur, short carinae present dorsolaterally toward base, broad shallow depression present just before tergite I.

Female unknown.

Holotype male (UCD), 3 MI. S. E. PLAN DE BARRANCAS, JALISCO, MEXICO, 8 July 1963 (F. D. Parker, L. A. Stange).

SYSTEMATICS.—The second species of *Psenulus* to be described from the Neotropical Region, it differs from *P. mayorum* by the dark pronotum.

tum, except for the lobes, by the much more extensively pale tibiae and tarsi, the rounded humeri, the broader third submarginal cell, the more curved occipital carina dorsally, and by the entirely different clypeal shape (the sexes of the types are different, however, and this may account for some of the difference). *Psenulus aztecus* may be distinguished from the remaining American *Psenulus* by the pale markings and the large polished area on the propodeum behind the enclosure.

***Pseneo leytensis* Bohart and Grissell, new species**

FEMALE HOLOTYPE.—Length 11 mm. Black, shading to reddish on antenna, tegula, legs and abdomen laterally and ventrally; forewing moderately stained. Pubescence light golden, appressed and abundant over most of body, obscuring sculpture on face as well as pleuron and propodeum (Fig. 20) except part of enclosure; moderate on notum; hindfemur densely pubescent over entire inner surface (Fig. 14); petiole hair sparse dorsally, becoming longer and more conspicuous posteriorly, sparse and erect laterally; pubescence dense and short on tergites and second sternite but not obscuring punctation; pygidium with about six long bristles on each side (Fig. 19). Punctation fine and close on clypeus, becoming less dense toward vertex where it is moderate; notum with medium, well spaced punctures, pleuron with well spaced micropunctures; propodeum posteriorly granulate, enclosure longitudinally striate (Fig. 20); petiole with scattered medium punctures laterodorsally and laterally; tergites I to V with small punctures rather evenly spaced about one or two puncture diameters apart; pygidium smooth except for setigerous pits (Fig. 19). Clypeus beveled and truncate at apex (Fig. 15) with two longitudinal carinae; frons weakly rounded below ocelli; a prominent shiny swelling adjacent to compound eye at level of midocellus; a weak furrow between hindocelli, postocellar line curved into ocellar triangle (Fig. 13); inner eye margins rather evenly convex, not converging below; humeri rounded (Fig. 16); notaulices disappearing beyond middle of scutum; petiole dorsum as seen in profile about 1.8 times as long as hindfemur, petiole with nearly complete dorsolateral and lateral carinae (Fig. 18); pygidium angled at about 30 degrees, not carinate medially (Fig. 19).

Male unknown.

Holotype female (CAS), TACLOBAN, LEYTE ISLANDS, PHILIPPINES, November, 1944 (E. S. Ross).

SYSTEMATICS.—*Pseneo leytensis* differs in many respects from the only other Oriental species (*P. townesi* van Lith) from the island of Luzon in the Philippines. The clypeal apex is truncate rather than emarginate, the punctation of the notum is more sparse and less coarse, the pubescence is dense and golden rather than silvery to light brownish, the propodeum is posteriorly granulate (beneath the pile) rather than coarsely reticulate, the second recurrent has a more basad termination (Fig. 17) and the inner surface of the hindfemur has no special sub-apical hair tuft (Fig. 14). From American species *P. leytensis* differs by having two longitudinal carinae of the clypeal bevel (as in *P.*

townesi), rather than three, by the granulate propodeal cheeks beneath dense appressed pile, and by the generally pubescent inner surface of the hindfemur.

***Pseneo irwini* Bohart and Grissell, new species**

FEMALE HOLOTYPE.—Length 9 mm. Black, tinted with reddish brown on tegula, tarsi and abdominal segments, especially apically, faint gold and green reflections on propodeum; forewing lightly stained. Pubescence silvery and dense on face, pale and sparse but conspicuous on mesopleuron, thicker on notum and propodeum, fulvous on pronotum and scutum, hindfemur with narrow strip of pubescence on inner surface for nearly entire length (Fig. 22), abdomen with off-silvery to yellowish hair becoming more dense on posterior segments, pygidium with abundant yellow bristles of moderate length (Fig. 28). Punctuation of clypeus fine and close, fine and somewhat spaced on frons, sparse on vertex, practically absent on gena; punctures of scutum mixed fine to coarse, moderately dense, coarse ones somewhat striatiform; scutellum with moderate punctuation; mesopleuron to base of propodeum laterally nearly impunctate; propodeum irregularly reticulate, enclosure as in fig. 27; petiole smooth and polished; tergite I polished, II to V becoming micropunctate laterally and posteriorly; pygidium with dense microreticulation and scattered large punctures (Fig. 28). Clypeal apex thin, weakly bidentate (Fig. 21); inner orbits converging slightly below; frons evenly rounded below level of ocelli; a longitudinal furrow between hindocelli, postocellar line curved into ocellar triangle medially (Fig. 25); gena with a prominent smooth swelling opposite lower outer angle of eye; humeral angle slender and projecting strongly outward (Fig. 23); notaulices disappearing beyond middle of scutum; petiole dorsum as seen in profile about as long as hindfemur (Fig. 26), petiole carinae absent except dorso-laterally toward base; pygidium angled at about 42 degrees, not carinate medially (Fig. 28).

Male unknown.

Holotype female (UCD), QUEZALTEPEQUE, EL SALVADOR, 6 August 1963 (D. Q. Cavagnaro, M. E. Irwin).

SYSTEMATICS.—We have seen examples of most of the described species of *Pseneo*, and several unique features are displayed by *P. irwini*. It is the only species with the clypeal apex thin and bilobed (Fig. 21). The pronotal humeri project outward but are lobular rather than sharp as in most species (Fig. 23). The pygidium is nearly flat, extensively bristly and minutely pebbled (Fig. 28). The second recurrent vein is only weakly curved anteriorly and is interstitial (Fig. 24). Finally, the hindfemur has the inner distal patch of hair prolonged basad (Fig. 22). The species is named for M. E. Irwin who has collected wasps extensively in El Salvador.